

1        1. A method of eliciting in a vertebrate a protective immune response against a  
2 bacterium of the genus *Chlamydia*, the method comprising administering to the vertebrate  
3 a composition comprising a carrier group coupled to an oligosaccharide obtained from a  
4 chlamydial glycolipid, the composition being administered in an amount sufficient to  
5 elicit a protective immune response against the member.

1        2. The method of claim 1, wherein the chlamydial glycolipid is glycolipid  
2 exoantigen.

1        3. The method of claim 1, wherein the carrier group is coupled to the  
2 oligosaccharide by a linker.

1        4. The method of claim 3, wherein the linker is 2-(4-aminophenyl)ethylamine.

1        5. The method of claim 1, wherein the carrier group is coupled to a mixture of  
2 oligosaccharides obtained from the glycolipid.

1        6. The method of claim 5, wherein the mixture of oligosaccharides comprises  
2 oligosaccharides having a molecular weight of from 800 to 3000 daltons.

1        7. A composition comprising a carrier group coupled to an oligosaccharide  
2 obtained from a chlamydial glycolipid.

1        8. The composition of claim 7, wherein the glycolipid is GLXA.

1        9. The composition of claim 7, wherein the carrier group is coupled to the  
2 oligosaccharide by a linker.

1        10. The composition of claim 9, wherein the linker is 2-(4-  
2 aminophenyl)ethylamine.

1        11. A method of purifying a chlamydial glycolipid, the method comprising  
2 providing an aqueous composition that has been in contact with cells infected with a  
3 bacterium of the genus *Chlamydia*, the aqueous composition comprising a chlamydial  
4 glycolipid; centrifuging the composition for at least 2 hours at 100,000 g or more to form  
5 a pellet comprising the chlamydial glycolipid; and collecting the pellet, thereby purifying  
6 the chlamydial glycolipid.

1        12. The method of claim 11, further comprising centrifuging an aqueous mixture  
2 at 8000 g or less to produce the aqueous composition.

1        13. The method of claim 11, further comprising resuspending the pellet in a  
2 reaction mixture and digesting the reaction mixture with DNase, RNase, and  
3 proteinase K to form a digested mixture.

1        14. The method of claim 13, further comprising subjecting the digested mixture  
2 to affinity chromatography using a monoclonal antibody against chlamydial glycolipid  
3 exoantigen.

1        15. A purified chlamydial glycolipid exoantigen, wherein the purified chlamydial  
2 glycolipid exoantigen is free of other components as determined by sodium  
3 dodecylsulfate gel electrophoreses and silver staining.

1        16. A method of eliciting in a vertebrate a protective immune response against a  
2 bacterium of the genus *Chlamydia*, the method comprising administering to the vertebrate  
3 a composition comprising a carrier group coupled to an oligosaccharide corresponding to  
4 a chlamydial glycolipid, the composition being administered in an amount sufficient to  
5 elicit a protective immune response against the member.

1        17. A composition comprising a carrier group coupled to an oligosaccharide  
2 corresponding to a chlamydial glycolipid.